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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/668,131	09/24/2003	Michael E. Blake	NavExpress-01	2008
38323 7590 05/31/2007 MICHAEL EMERSON BLAKE 3900 SW 30TH AVE STE 4 FORT LAUDERDALE, FL 33312			EXAMINER BENGZON, GREG C	
			ART UNIT 2144	PAPER NUMBER
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

Application No.

10/668,131

Applicant(s)

BLAKE ET AL.

Examiner

Greg Bengzon

Art Unit

2144

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 24 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-38 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-38 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application
- ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

This application has been examined. Claims 1-38 are pending.

#### ***Priority***

The effective date of the claims described in this application is September 24, 2003.

#### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-35 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites the limitation "*processing the software instructions*". There is insufficient antecedent basis for this limitation in the claim.

Claim 1 recites the limitation '*means for routing and writing of the nmea 0183 sentence to the correct virtual com port*'. There is insufficient antecedent basis for this limitation in the claim.

***Claim Rejections - 35 USC § 101***

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-35 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claims 1-35 are directed towards processing of software instructions. A process consisting solely of mathematical operations, i.e., converting one set of numbers into another set of numbers, does not manipulate appropriate subject matter and thus cannot constitute a statutory process.

Furthermore data structures ('*NMEA sentences*') not claimed as embodied in computer-readable media are descriptive material per se and are not statutory because they are not capable of causing functional change in the computer. Mere arrangements or compilations of facts or data, without any functional interrelationship is not a process, machine, manufacture, or composition of matter.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kelly (US Publication 2005/0002417) in view of the NMEA-0183 Standards further in view of Calvignac (US Patent 20030231625) further in view of what was well-known in the art.

Kelly disclosed (re. Claim 1) a nmea 0183 sentence transporter over ethernet for a nmea 0183 sentence transporter over ethernet (Kelly-Paragraph 42, Paragraph 48) for increasing transmission speed, allowing for dynamic routing and complete transparency to the user comprising:

means for converting the electrical signals from rs422 to microprocessor level signal levels and then from the microprocessor signal levels to rs422 electrical signal standards; (Kelly-Figure 7, Paragraph 52, Paragraph 56, Paragraph 58)

means for processing the software instructions for transporting the packet frames and the routing instructions, (Kelly- Paragraph 56, *'Gateway 410 may also analyze an identifier (e.g., a destination address) in a received message to determine whether it should tunnel the message in a second protocol'* ) electrically connected to said means for converting the electrical signals from rs422 to microprocessor level signal levels and then from the microprocessor signal levels to rs422 electrical signal standards;

However while Kelly substantially disclosed the claimed invention, including communication between NMEA0183 devices and RS-422 interfaces, Kelly did not disclose nmea-0183 sentences.

The NMEA-0183 Standards disclosed (re. Claim 1) nmea-0183 sentences as character strings. Each NMEA sentence includes a sentence identifier (delimiter) to distinguish one NMEA sentence from another NMEA sentence. The data included in a NMEA sentence are placed in fields. A NMEA sentence contains several fields separated by commas.

At the time of the invention it would have been obvious to combine the NMEA-0183 standards with the RS-422 standards, since the NMEA electrical specifications actually recommend using the RS-422 standard interface. The Examiner notes that Kelly is concerned with protocol conversion between data links using proprietary

protocols such as NMEA. Thus Kelly would have been motivated to combine the NMEA Standard to enable the operability of the devices using the proprietary NMEA protocol.

Kelly-NMEA disclosed (re. Claim 1) means for providing the compatibility with ethernet signals levels and the microprocessor signal levels, (Kelly-Figure 7, Paragraph 52, Paragraph 56, Paragraph 58)

Kelly-NMEA disclosed (re. Claim 1) means for indentifying input processing of the nmea 0183 data; (Kelly-Paragraph 45)

Kelly-NMEA disclosed (re. Claim 1) means for polling routine that is to cycle through each of the input ports looking for nmea 0183 sentences, (Kelly-Paragraph 56, '*gateway 410 may be configured to discover that a message needs to be tunneled*' )

Kelly-NMEA disclosed (re. Claim 1) means for a checking routine that filters out nmea 0183 sentences that are not to be transported to the ethernet, (Kelly-Paragraph 55, '*identifying private/public messages*' )

Kelly-NMEA disclosed (re. Claim 1) means for adding a prefix header to the ethernet sentence packet, (Kelly-Paragraph 56, '*encapsulate messages*' )

The Examiner notes that it would have been well-known in the networking art that the process of encapsulation inherently includes adding a prefix header to the payload.

Kelly-NMEA disclosed (re. Claim 1) means for building an ethernet data packet comprised of the header fields and the nmea 0183 sentence (Kelly-Paragraph 56, *'encapsulate messages'*)

Kelly-NMEA disclosed (re. Claim 1) means for processing the ethernet data packet by submitting it to the output driver, (Kelly-Paragraph 56, *'transmit the message to destination'*)

Kelly-NMEA disclosed (re. Claim 1) means for writing the nmea 0183 data sentence to the correct output port; means for routing the nmea 0183 data packet to the correct rs422 port, (Kelly-Paragraph 56, *'transmit the message to destination'*)

Kelly-NMEA disclosed (re. Claim 1) means for checking data filters to see if nmea 0183 sentence data should be sent to output ports, (Kelly-Paragraph 55, *'identifying private/public messages'*)

Kelly-NMEA disclosed (re. Claim 1) means for stripping off headers from the ethernet nmea 0183 data sentence packet, (Kelly-Paragraph 57, Paragraph 60, *'extract passenger message'*)

Kelly-NMEA disclosed (re. Claim 1) means for parsing the packet to determine the routing for the nmea 0183 sentence, (Kelly- Paragraph 56, *'Gateway 410 may also analyze an identifier (e.g., a destination address) in a received message'*)

Kelly-NMEA disclosed (re. Claim 1) means for polling the ethernet packet looking for nmea 0183 encapsulated data, (Kelly-Paragraph 56, *'gateway 410 may be configured to discover that a message needs to be tunneled'* )



However while Kelly-NMEA substantially disclosed the claimed invention, Kelly-NMEA did not disclose defining data fields for the UDP, TCP/IP and Ethernet protocols.

Calvignac disclosed (re. Claim 1) defining data fields for the UDP, TCP/IP and Ethernet protocols. (Calvignac-Paragraph 41-Paragraph 47) Calvignac disclosed 'selective header field extraction' which allows for selecting only desired data fields for inclusion. (Calvignac- Paragraph 47)

Kelly-NMEA-Calvignac disclosed (re. Claim 1) means for defining data which makes up the udp header, including the ip address; (Calvignac-Paragraph 41-Paragraph 47) Calvignac disclosed 'selective header field extraction' which allows for selecting only desired data fields for inclusion. (Calvignac- Paragraph 47)

Kelly-NMEA-Calvignac disclosed (re. Claim 1) means for defining data which encapsulates the prefix of the nmea 0183 sentence data, containing but not limited to indentifications, and routing; (Calvignac-Paragraph 41-Paragraph 47) Calvignac disclosed 'selective header field extraction' which allows for selecting only desired data fields for inclusion. (Calvignac- Paragraph 47)

Kelly-NMEA-Calvignac disclosed (re. Claim 1) means for defining data which makes up the standard nmea 0183 sentence; means for defining the data suffix added

to the nmea 0183 sentence; (Calvignac-Paragraph 41-Paragraph 47) Calvignac disclosed 'selective header field extraction' which allows for selecting only desired data fields for inclusion. (Calvignac- Paragraph 47)

Kelly-NMEA-Calvignac disclosed (re. Claim 1) means for defining the data field that makes up the unique identifier for the ethernet data packet; (Calvignac-Paragraph 41-Paragraph 47) Calvignac disclosed 'selective header field extraction' which allows for selecting only desired data fields for inclusion. (Calvignac- Paragraph 47)

Kelly-NMEA-Calvignac disclosed (re. Claim 1) means for defining the data field which defines the origin id of the data sentence; means for defining the data field of the destination id for the data packet; (Calvignac-Paragraph 41-Paragraph 47) Calvignac disclosed 'selective header field extraction' which allows for selecting only desired data fields for inclusion. (Calvignac- Paragraph 47)

Kelly-NMEA-Calvignac disclosed (re. Claim 1) means for defining the data field of the destination ip address for the ethernet data packet; (Calvignac-Paragraph 41-Paragraph 47) Calvignac disclosed 'selective header field extraction' which allows for selecting only desired data fields for inclusion. (Calvignac- Paragraph 47)

Kelly-NMEA-Calvignac disclosed (re. Claim 1) means for defining the data field of the destination port address for the ethernet data packet; (Calvignac-Paragraph 41-

Paragraph 47) Calvignac disclosed 'selective header field extraction' which allows for selecting only desired data fields for inclusion. (Calvignac- Paragraph 47)

Kelly-NMEA-Calvignac disclosed (re. Claim 1) means for defining the data field that which is made up of the nmea 0183 sentence code for this ethernet data packet; (Calvignac-Paragraph 41-Paragraph 47) Calvignac disclosed 'selective header field extraction' which allows for selecting only desired data fields for inclusion. (Calvignac-Paragraph 47)

Kelly-NMEA-Calvignac disclosed (re. Claim 1) means for reading the ethernet packet of data from the transparency program running on the computer; (Kelly-Paragraph 88, *'encapsulated messages may be unwrapped by destination modules'*)

Kelly-NMEA-Calvignac disclosed (re. Claim 1) means for checking headers for routing and mapping instructions, (Kelly-Paragraph 60)

Kelly-NMEA-Calvignac disclosed (re. Claim 1) means for stripping off the header from the ethernet packet, (Kelly-Paragraph 60)

Kelly-NMEA-Calvignac disclosed (re. Claim 1) means for routing and writing of the nmea 0183 sentence to the correct virtual com port , logically linked to said means for stripping off the header from the ethernet packet; (Kelly-Paragraph 60) The Examiner notes that RS-422 interfaces represent a virtual com port.

Kelly-NMEA-Calvignac disclosed (re. Claim 1) means for reading from the virtual com port and looking for a valid nmea 0183 sentence; (Kelly-Paragraph 88, *'encapsulated messages may be unwrapped by destination modules'*)

Kelly-NMEA-Calvignac disclosed (re. Claim 1) means for checking the routing and mapping table to determine what header instructions to build, (Kelly-Paragraph 47, *'select one of application programs for translation bases on the type of format required by the outgoing link'*)

Kelly-NMEA-Calvignac disclosed (re. Claim 1) means for constructing the header on the front of the nmea 0183 sentence which contains the routing and identification information (Kelly-Paragraph 56, *'encapsulate messages'*)

Kelly-NMEA-Calvignac disclosed (re. Claim 1) means for writing the nmea 0183 packet containing headers and trailers to the ethernet, (Kelly-Paragraph 56, *'encapsulate messages'*)

Kelly-NMEA-Calvignac disclosed (re. Claim 1) means for defining the data that is used for ethernet transmission of the nmea 0183 data sentence;

and

Kelly-NMEA-Calvignac disclosed (re. Claim 1) means for interfacing between the software interface utility and the user applications. (Kelly-Paragraph 47, *'inter-data link gateway layer'*)

Kelly-NMEA-Calvignac disclosed (re. Claim 2) a RS422 electro static protection rs422\_transceiver. (Kelly-Paragraph 58)

The Examiner notes that it would have been obvious to a person of ordinary skill in the networking art that any device operating an RS-422 interface requires an RS422 transceiver.

Kelly-NMEA-Calvignac disclosed (re. Claim 3) a Microprocessor capable of interfacing to RS422 transceiver and Ethernet transceiver electrically, Microprocessor capable of being programmed with logic as stated microprocessor .(Kelly-Paragraph 47, *'inter-data link gateway layer'*)

Kelly-NMEA-Calvignac disclosed (re. Claim 4) an electrically compatible interface between microprocessor and standard Ethernet signal levels ethernet\_transceiver. (Kelly-Paragraph 47, *'inter-data link gateway layer'*)

The Examiner notes that it would have obvious to a person of ordinary skill in the networking art that said gateway layer is required to be electrically compatible with the data links that are serviced by said gateway layer.

With respect to Claims 5-35, the Examiner notes that claims are reciting what appear to be software module names, said software module names inherently being non-functional descriptive material. Thus since there is no functionality being claimed or derived from said non-functional descriptive material, there is no patentable weight given to the aforementioned claims.

Claims 5-35 are rejected on the same basis as Claims 1-4.

Claims 36-38 recite limitations for an RS422 transceiver, a microprocessor and an electrically compatible interface, which as recited in Claim 1. In addition, the claims are reciting what appear to be software module names, said software module names inherently being non-functional descriptive material. The module names are followed by a description of the non-functional descriptive material indicating the intended use of said modules. Thus since there is no functionality being claimed or derived from said non-functional descriptive material, there is no patentable weight given to the aforementioned limitations regarding software module names.

Claims 36-38 are rejected on the same basis as Claims 1-4.

### ***Conclusion***

**Examiner's Note:** Examiner has cited particular columns and line numbers in the references applied to the claims above for the convenience of the applicant. Although the specified citations are representative of the teachings of the art and are

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applied to specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant in preparing responses, to fully consider the references in entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the Examiner.

In the case of amending the claimed invention, Applicant is respectfully requested to indicate the portion(s) of the specification which dictate(s) the structure relied on for proper interpretation and also to verify and ascertain the metes and bounds of the claimed invention.

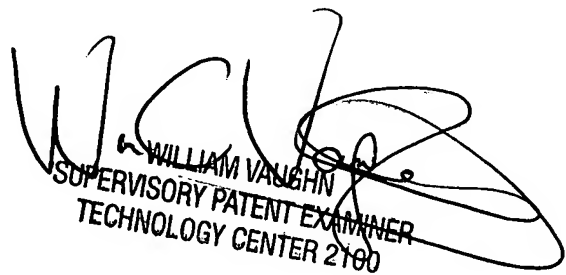
The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Please refer to the enclosed PTO-892 form.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Greg Bengzon whose telephone number is (571) 272-3944. The examiner can normally be reached on Mon. thru Fri. 8 AM - 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Vaughn can be reached on (571)272-3922. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

gcb

  
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